

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Previously Presented) A branching pipe joint comprising:

a substantially Y-pipe shaped branch part including an inlet pipe part through which a refrigerant flows in from a main pipe, a first outlet pipe part and a second outlet pipe part through which flows the refrigerant along a first direction, which is a flow direction of the refrigerant that flows through said inlet pipe part, and along said first direction in paths substantially symmetric to a centerline of said inlet pipe part;

a first branch nozzle part connected to said first outlet pipe part and extending along said first direction to a first tip part with a first free end aligned with said first outlet pipe part, the first tip part having a flared part;

a second branch nozzle part connected to said second outlet pipe part and extending along said first direction to a reducer pipe connecting part with a second free end aligned with said second outlet pipe part, said second free end being spaced a distance in said first direction from said first free end of said first tip part, and said reducer pipe connecting part having a pipe diameter that reduces in steps as the second free end is approached; and

a first branch pipe with an end received in the flared part and connected to said first tip part of said first branch nozzle, said first branch pipe being bent so that another end faces a direction that intersects said first direction in a state in which said first branch pipe is connected to said first branch nozzle part within said flared part, and said first branch pipe having a maximum length measured along said first direction that is smaller than said distance between said first and second free ends such that said reducer pipe connecting part projects in said first direction beyond said first branch pipe.

2. (Previously Presented) The branching pipe joint as recited in claim 19, wherein

said first branch pipe configured for connecting to said first branch nozzle part by brazing; and

said spacing is greater than or equal to 7 mm.

3. (Previously Presented) The branching pipe joint as recited in claim 1, wherein

said another end of said first branch pipe has a reducer pipe connecting part with a pipe diameter that changes in steps.

4. (Previously Presented) The branching pipe joint as recited in claim 1, wherein

said reducer pipe connecting part of said second tip part is part of said second branch nozzle part.

5. (Previously Presented) The branching pipe joint as recited in claim 1, wherein

said reducer pipe connecting part of said second tip part is part of a second branch pipe having an end connected to said second branch nozzle part, said second branch pipe including an end received in a flared end of said second branch nozzle part.

6. (Previously Presented) An air conditioner, comprising:

at least one indoor unit;

a plurality of outdoor units;

a union connecting piping that serves as a main pipe extending from said indoor unit to said plurality of outdoor units;

at least one branching pipe joint, as recited in claim 1, said at least one branching pipe joint being connected to said union connecting piping in accordance with a number of said outdoor units and distributing a flow of a refrigerant to two flows; and

a plurality of unit branch pipings that each connects said at least one branching pipe joint to a connection port of one of said outdoor units.

7. (Previously Presented) The branching pipe joint as recited in claim 3, wherein

said reducer pipe connecting part of said second tip part is part of said second branch nozzle part.

8 (Previously Presented) The branching pipe joint as recited in claim 3, wherein

said reducer pipe connecting part of said second tip part is part of a second branch pipe having an end connected to said second branch nozzle part, said second branch pipe including an end received in a flared end of said second branch nozzle part.

9. (Previously Presented) An air conditioner, comprising:

at least one indoor unit;

a plurality of outdoor units;

a union connecting piping that serves as a main pipe extending from said indoor unit to said plurality of outdoor units;

at least one branching pipe joint, as recited in claim 3, said at least one branching pipe joint being connected to said union connecting piping in accordance with a number of said outdoor units and distributing a flow of a refrigerant to two flows; and

a plurality of unit branch pipings that each connects said at least one branching pipe joint to a connection port of one of said outdoor units.

10. (Previously Presented) An air conditioner, comprising:

at least one indoor unit;

a plurality of outdoor units;

a union connecting piping that serves as a main pipe extending from said indoor unit to said plurality of outdoor units;

at least one branching pipe joint, as recited in claim 5, said at least one branching pipe joint being connected to said union connecting piping in accordance with a number of said outdoor units and distributing a flow of a refrigerant to two flows; and

a plurality of unit branch pipings that each connects said at least one branching pipe joint to a connection port of one of said outdoor units.

11. (Previously Presented) The branching pipe joint as recited in claim 2, wherein

said another end of said first branch pipe has a reducer pipe connecting part with a pipe diameter that changes in steps.

12. (Previously Presented) The branching pipe joint as recited in claim 2, wherein

said reducer pipe connecting part of said second tip part is part of said second branch nozzle part.

13 (Previously Presented) The branching pipe joint as recited in claim 2, wherein

said reducer pipe connecting part of said second tip part is part of a second branch pipe having an end connected to said second branch nozzle part, said second branch pipe including an end received in a flared end of said second branch nozzle part.

14. (Previously Presented) An air conditioner, comprising:

at least one indoor unit;

a plurality of outdoor units;

a union connecting piping that serves as a main pipe extending from said indoor unit to said plurality of outdoor units;

at least one branching pipe joint, as recited in claim 2, said at least one branching pipe joint being connected to said union connecting piping in accordance with a number of said outdoor units and distributing a flow of a refrigerant to two flows; and

a plurality of unit branch pipings that each connects said at least one branching pipe joint to a connection port of one of said outdoor units.

15. (Previously Presented) A branching method of connecting piping for

distributing the flow of a refrigerant to a plurality of outdoor units from a union connecting piping that serves as a main pipe extending from at least one indoor unit to said plurality of outdoor units, the branching method comprising:

providing a branching pipe joint including

a substantially Y-pipe shaped branch part including an inlet pipe part through which a refrigerant flows in from a main pipe, a first outlet pipe part and a second outlet pipe part through which flows the refrigerant along a first direction, which is a flow direction of the refrigerant that flows through said inlet pipe part, and along said first direction in paths substantially symmetric to a centerline of said inlet pipe part,

a first branch nozzle part connected to said first outlet pipe part and extending along said first direction to a first tip part with a first free end aligned with said first outlet pipe part, the first tip part having a flared part,

a second branch nozzle part connected to said second outlet pipe part and extending along said first direction to a reducer pipe connecting part with a second free end aligned with said second outlet pipe part, said second free end being spaced a distance in said first direction from said first free end of said first tip part, and said reducer pipe connecting part having a pipe diameter that reduces in steps as the second free end is approached, and

a first branch pipe with an end configured to be received in the flared part and connected to said first tip part of said first branch nozzle part, said first branch pipe being bent so that another end faces a direction that intersects said first direction when said first branch pipe is connected to said first branch nozzle part within said flared part, and said first branch pipe having a maximum length measured along said first direction that is smaller than said distance between said first and second free ends such that said reducer pipe connecting part projects in said first direction beyond said first branch pipe;

connecting said branching pipe joint to said union connecting piping in accordance with a number of said outdoor units prior to connecting said first branch pipe to said branching pipe joint, said branching pipe joint being connected to said union connecting piping in a horizontal arrangement so that said first branch nozzle part and said second

branch nozzle part serve as a horizontal branch arrangement at a common height position; and

connecting said first branch pipe to said first branch nozzle such that said other end part of said first branch pipe is horizontally disposed relative at the common height position of said first and second branch nozzle parts, and subsequently moving said first branch pipe relative to said first branch nozzle part to a height position spaced from said common height position in order to connect said union connecting piping to a connection port of one of said outdoor units that is disposed at the height position spaced from the common height position.

16. (Previously Presented) The branching method as recited in claim 15, wherein

said first branch nozzle part and said second branch nozzle part being disposed so that a spacing between a portion of said first tip part of said first branch nozzle part nearest a second branch nozzle part side and a portion of said second branch nozzle part nearest said first tip part of said first branch nozzle part is less than or equal to 40 mm.

17. (Previously Presented) The branching method as recited in claim 16, wherein

said first branch nozzle part is covered with a heat insulating material prior to connecting said branching pipe joint to said union connecting piping and prior to connecting said first branch pipe to said first branch nozzle, and

the heat insulating material covers said branch part, up to the position of said first direction branch part side less than the first tip part connected to said first branch pipe.

18. (Previously Presented) The branching method as recited in claim 15, wherein

said first branch nozzle part is covered with a heat insulating material prior to connecting said branching pipe joint to said union connecting piping and prior to connecting said first branch pipe to said first branch nozzle, and

the heat insulating material covers said branch part, up to the position of said first direction branch part side less than the first tip part connected to said first branch pipe.

19. (Previously Presented) The branching pipe joint as recited in claim 1, wherein

said first branch nozzle part and said second branch nozzle part are disposed so that a spacing between a portion of said first tip part of said first branch nozzle part nearest a second branch nozzle part side and a portion of said second branch nozzle part nearest said first tip part of said first branch nozzle part is less than or equal to 40 mm.

20. (Previously Presented) The branching pipe joint as recited in claim 19, wherein

said first branch nozzle part is covered with a heat insulating material, which covers said branch part, up to the position of said first direction branch part side less than the first tip part connected to said first branch pipe.

21. (Previously Presented) The branching pipe joint as recited in claim 1, wherein

said first branch nozzle part is covered with a heat insulating material, which covers said branch part, up to the position of said first direction branch part side less than the first tip part connected to said first branch pipe.

22. (Previously Presented) The branching pipe joint as recited in claim 5, wherein

the flared end of the second branch nozzle part is spaced in the first direction from the flared end of the first branch nozzle part.